Title/Subject: Standard Application Procedure for Sealants Applied to Underground Ventilation Controls		
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Signature/Initial: Steven J. Luzik, Chief, Approval and Certification Center		

Standard Application Procedure for Sealants Applied to Underground Ventilation Controls

1.0 Purpose:

To establish a Standard Application Procedure (SAP) to be followed by an applicant requesting a Mine Safety and Health Administration (MSHA) “Suitability Number” for mine sealants proposed for use on ventilation controls in underground coal mines. This document outlines application procedures, fee information and summarizes performance requirements used by Approval & Certification (A&CC).

2.0 Scope:

The sealants evaluated under this SAP are designated for use in coating ventilation controls and seals. This is a voluntary procedure designed to facilitate the evaluation of mine sealants. A fee is charged.

3.0 Reference:

3.1 ASTM E72-0, "Conducting Strength Tests of Panels for Building Construction."

3.2 ASTM E162-87, "Surface Flammability of Materials Using a Radiant Heat Energy Sources.”

3.3 American Society for Testing and Materials -1916 Race St. Philadelphia, PA 19103.

3.4 Title 30 Code of Federal Regulations (30 CFR) Part 75.333 and 75.335.

4.0 Definitions:

4.1 ASTM - American Society for Testing and Materials. A nonprofit organization devoted to the development of voluntary full consensus standards for materials, products, systems, and services and the promotion of related knowledge.

4.2 Company assigned application code number - a unique six digit number assigned by the applicant that is used for the tracking of the application paperwork.

4.3 MSHA assigned ID number - an identification number (not an acceptance number) that identifies the formulation of a component that is used in producing a finished product but made by another manufacturer.

4.4 Suitability Number - A number assigned to a mine sealant that indicates that the sealant has met the requirements of this procedure, and can be considered as meeting the applicable requirements of 30 CFR Part 75.333.

5.0 Fees:

An hourly fee is charged to process an application. Following the receipt of the application, MSHA will advise the applicant in writing of the estimated charges to process the application. The applicant then must sign and return the letter agreeing to the estimated charges before processing can begin. This estimate does not include travel charges for witnessing a test when required. An incomplete application requiring further correspondence with the applicant will take longer to process. Therefore, it is to the applicant's advantage to submit a complete application with all the information and data requested in this procedure. If final total charges are less than the estimated amount, the lesser amount will be charged.

Applicants may submit with their applications, a preauthorization notice. The preauthorization notice is a statement by the applicant authorizing MSHA to expend a stated amount of money in evaluating the application, eliminating the need for MSHA to provide an estimate letter. If final total charges are less than the preauthorize amount, the lesser amount will be charged.

6.0 Introduction:

The Code of Federal Regulations (CFR), Title 30, Parts 75.333 and 75.335 provides performance requirements for ventilation control and seal constructions, respectively. Part 75.333 requires sealants applied to ventilation controls, to have a flame-spread index of 25 or less when tested according to ASTM E162-87. Part 75.335 requires that seals be coated on all accessible surfaces with flame

retardant material that has a flame spread index of 25 or less when tested according to the same standard. Additionally 75.333(e)(1)(i) requires non-traditional and new ventilation controls to display equivalent strength when compared to their traditionally accepted counterparts. ASTM E72 80, Section 12 (Transverse Load - Specimen Vertical) is recognized in this standard as a valid test for making equivalency determinations regarding these designs.

7.0 Performance Requirements - to be considered suitable:

7.1 The sealant must display a flame spread index of 25 or less when tested per 8.8.1.

7.2 To be considered a suitable strength enhancing sealant for use on construct dry stacked stoppings, three wall specimens, when coated full face with the sealant and tested according to the parameters in 8.8.2, must display an average transverse strength of at least 39 pounds per square foot.

8.0 Applying for Suitability - the application form (Appendix 1) may be used.

8.1 Only an individual or organization (applicant) that manufactures or controls the assembly of a product may apply for a suitability rating. An applicant is one that manufactures or controls the assembly of a product and that applies to MSHA for acceptance of that product. The information provided by the applicant for Section 8.13, Quality Assurance of this procedure must demonstrate the applicant has control of the manufacturing process.

8.2 The application must contain the manufacturer's name, address, telephone number, and all the information requested in this procedure and be signed by an authorized representative of the company. An incomplete application will not be processed.

8.3 Each application must be identified by a unique code number assigned by the applicant. The code number will be six numerical digits and be placed on the initial application and all subsequent correspondence.

8.4 Each sealant requires a separate application.

8.5 Address the application to: Chief, Approval and Certification Center, Mine Safety and Health Administration, RR#1, Box 251, Industrial Park Road, Triadelphia, WV 26059.

8.6 The application must include a statement concerning the solubility of the cured product in water.

8.7 Formulation:

Each ingredient should be specified by its chemical or generic name, along with its percentage (weight) and tolerance. A component formulation that has been registered with MSHA may be identified by furnishing the MSHA assigned ID number; however, each additional ingredient the manufacturer adds to the registered formulation (ID number) should be identified by the chemical or generic name, along with its percentage (weight) and tolerance.

8.8 Testing Details:

8.8.1 Tests must be conducted on a minimum of four specimens in accordance with ASTM E 162-87 and the MSHA document Performance Criteria and Test Guidelines for Evaluation of Nontraditional Ventilation Controls in Underground Coal Mines ACRI4005, Section 5.1. The sealant is applied in a thickness of ¼ inch or greater on a noncombustible substrate most similar in material to the proposed substrate.

8.8.2 If a sealant is to be used to construct dry-stacked block stoppings the applicant must submit results of testing conducted according to ASTM E72-80, Section 12, transverse loading of a vertical specimen. Eight-inch, two-cell hollow core concrete blocks should be used to construct the test walls. A minimum of three units measuring a nominal 4 ft. by 8 ft. must be tested. Sealant must be applied full face to both sides of the wall in the recommended manufacturer's application thickness. The perimeters of the wall must not be coated.

Sealants composed of cementatious or silicate based products should not be cured longer than 28 days prior to testing. A minimum 5lb. sample of the uncured sealant used to construct the test walls must be left at the test site for MSHA. This sample must be taken from the same container used for the construction of the test walls (See: MSHA Document ACRI4005, Sections 5.2).

8.9 The applicant must submit literature that instructs the user on proper application of the product. The instructions must also include mixing and application procedures as may be applicable to preparation of test specimens as required by Sections 8.8.1 and 8.8.2.

8.10 The applicant should submit sales literature as it becomes available.

8.11 The product testing in paragraphs 8.8.1 and 8.8.2 must be performed by an independent test laboratory acceptable to MSHA. MSHA reserves the right to witness testing and must be informed of the test schedule. Alternatively, MSHA may request a video tape of the tests.

8.12 Material Safety Data Sheet (MSDS) Information:

The applicant must provide the product's Material Safety Data Sheet.

8.13 Quality Assurance:

Applications are to include information pertaining to procedures that the manufacturer intends to employ to maintain product compliance with respect to the mandated performance requirements. This information is to include, as a minimum, the following items:

8.13.1 Procurement procedures for the components or ingredients of the product, including inspection of same;

8.13.2 Manufacturing practices to maintain the formulation;

8.13.3 Procedures for record keeping, such as test results, etc.

8.14 All formulations and test results' or other information designated as proprietary and/or confidential, will be regarded as such with the exception of the company name, address, phone number, product name, intended product use, and suitability number.

9.0 Post-Suitability Evaluation Audit:

As part of the suitability program, MSHA reserves the right to request samples from the manufacturer for evaluation at no cost to MSHA for post-suitability audit. Samples of each product will not be requested more than once a year, except for cause.

10.0 Issuance of Suitability:

10.1 MSHA will provide the applicant with a letter of suitability or non-suitability upon completion of its evaluation.

10.2 Containers of the suitable sealant must be legibly and permanently labeled with the nomenclature listed on the Suitability Letter. MSHA may permit alternate forms of labeling.

10.3 MSHA reserves the right to rescind a suitability number for cause.

10.4 A product may be advertised as a “Suitable Sealant,” but such terms as “recommended,” “approved,” “accepted,” or “sanctioned” by MSHA must not be used.

10.5 Modifications:

A manufacturer may request a modification (extension request) to a previously issued suitability letter for minor changes in sealant’s composition. The need for testing will be determined by MSHA.

10.6 Companies other than the original manufacturer can market a suitable sealant under a different trade name or designation (private label). However, to maintain the validity of the suitability, the “Suitability Number” may not be changed. Any other markings on the product are at the discretion of the manufacturer or distributor. Additionally, MSHA must be

promptly notified of such actions. Under this type of marketing, the original manufacturer is still responsible for the suitability requirements.

12.0 Responsibility:

The applicant has the obligation to submit the required information for the product. The Quality Assurance and Materials Testing Division has the responsibility to ensure the applicability and completeness of the submitted information.

13.0 Distribution:

Applicants, interested parties, and the Quality Assurance and Materials Testing Division.

14.0 Review:

Once every three years from the last issue date.

15.0 Authority:

Title 30, Code of Federal Regulations, Part 75, Sections 75.333 and 75.335.

APPENDIX I

APPLICATION FORM
FOR
SEALANTS APPLIED TO VENTILATION CONTROLS
(30 CFR Pan 75.333)

Date_____

1. Company Name_____
   Address_____
   _____
   _____
   Telephone No. _____
   FAX No. _____
   Company Representative_____
2. Company Assigned Application No. _____
3. Product Trade Name/Description (Include all variations):
   _____
   _____
   _____
   _____

4. Formulation

Ingredient	% by Weight	Tolerance (±%)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

5. Product Application Procedures (Brief description of how the user is to prepare and apply the sealant. Include the document that is provided to the user.)
   _____
   _____
   _____
   _____
   _____

6. ASTM E162-87 test results attached (Yes/No) _____
   (If No, attach explanation.)

7. ASTM E72-80 test results attached (Yes/No) _____
   (If applicable.)

8. A 5 pound sample of sealant sent (Yes/No) _____
(If foam, 4 samples as tested per ASTM E162)
(If No, attach explanation.)

9. Sales literature attached (Yes/No) _____
(Sales literature may be sent later when available)

10. Application procedures attached (Yes/No) _____
(If No, attach explanation.)

11. A Material Safety Data Sheet (MSDS) for the final end product attached (Yes/No) _____
(If No, attach explanation.)

12. You may contact at _____at _____
(Company Representative) (Telephone No.)
for further information.

13. TOXICITY AND QUALITY ASSURANCE STATEMENT
I certify that the sealant _____, in its final form
(Trade Name)
presents no toxic hazard under normal use conditions. Furthermore, I certify, that we will assure product compliance for this product with respect to all specifications submitted to MSHA, A&CC.

Signed _____
(Authorized Company Official)

Title _____

Date _____

Document Information Form

CDS No.: ASAP5005 ____ ____Enter (Original):
(IPSO Assigns) ____Supersede CDS No.: ASAP4024 dated 09/05/01)
____Revise CDS No.:

Title: Standard Application Procedure for Sealants Applied to Underground Ventilation Controls

Category: _XX_ A (PAR related) ____ N (Not PAR related)

Type: SAP_ (POL, SAP, SOP, STP, LEG, INF, CRI)

Sponsoring Division/Center Chief: _____Ken A. Sproul_____

Division/Center Contact _____Ken A. Sproul_____

Document is For:

___ External Distribution
_XX Internal Use Only

List of 30 CFR References:

Part	Section(s)
All	Subparts
75	_75.333 & 75.335
___	_____

Key Words: __Sealants, Ventilation Controls, Stoppings_____
(75 Characters)

Follow-Up Review Date __9/01/07_____

Comments: Transfer to the Quality Assurance and Material Testing Division.

Concurrence:
Technical Review By: _____Mark Schwartz_____
Committee Representative

Administrative Review By: _____ Committee Chairperson

Division Chief Concurrence (Initials)

	Yes	No
AED	___	___
ESD	___	___
M&ESD	___	___
QA&MTD	___	___

Authorized By:_____ _____
Name A&CC Chief or Designate Date